**BACKGROUND**

HD-PTP (tyrosine-protein phosphatase non-receptor type 23, PTPN23) is a 1,636 amino acid protein encoded by the human gene PTPN23. HD-PTP belongs to the protein-tyrosine phosphatase family, non-receptor subfamily. It contains one BRO1 domain, two TPR repeats and one tyrosine-protein phosphatase domain. The C-terminal region contains the PTP-like domain, whereas the N-terminal region contains the two TPR regions. These regions are homologous to the yeast protein, BRO1, which is involved in the mitogen-activated protein kinase signaling pathway. Similarly, HD-PTP is believed to act as a negative regulator of Ras-mediated mitogenic activity and is phosphorylated upon DNA damage, probably by ATM or ATR. HD-PTP protein is differentially modulated by two angiogenic growth factors. While Vascular Endothelial Growth Factor (VEGF) has no effect on protein levels, Fibroblast Growth Factor-2 (FGF-2) induces HD-PTP degradation via the proteasome system.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: PTPN23 (human) mapping to 3p21.31; Ptpn23 (mouse) mapping to 9 F2.

**SOURCE**

HD-PTP (F-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 33-54 at the N-terminus of HD-PTP of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2b kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398711 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

HD-PTP (F-4) is recommended for detection of HD-PTP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:1500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).


Molecular Weight of HD-PTP: 185 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-375 cell lysate: sc-3811 or Hep G2 cell lysate: sc-2277.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgGk BP-HRP: sc-516102 or m-IgGk BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGk BP-FITC: sc-516140 or m-IgGk BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

Store at 4°C, **“DO NOT FREEZE”**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.

**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.